

## PROJECT / CONSTRUCTION MANAGER FUNCTIONS

### Functions of Management Approach

Ausland manages projects with attention to seven distinct functions:

1. Project Management
2. Cost Management
3. Time Management
4. Quality Management
5. Contract Administration
6. Safety Management
7. Program Management

These seven functions are not mutually exclusive, but are related and integral components of our management process. Further, each function is broken down into the following phases:

1. **Pre-Design**
2. **Design**
3. **Procurement**
4. **Construction**
5. **Post-Construction**

### Specific Functions of Project Management

Our goal during the **Pre-Design Phase** is to define basic project purposes, goals and parameters of performance - particularly cost, time, and quality - and then document and communicate to all team members at the earliest possible juncture.

Secondly, we develop **Construction Management Plan** that establishes scope, budget, schedule, environmental conditions, and the basic systems to be utilized and the methods and procedures to be followed. This may involve several conceptual design and estimating iterations before the project meets the objectives outlined.

Our typical Construction Management Plan includes the following basic components:

1. Project description
2. Milestone schedule
3. Master schedule
4. Quality management approach
5. Reference to project documents
6. Project organization chart and staffing plan
7. Explanation of roles, responsibilities and authority of team members
8. Project budget/work breakdown structure
9. Environmental/archaeological considerations
10. Reference to project procedures manual
11. Management information system
12. Communications protocol
13. Bid packaging and contracting strategy
14. Site mobilization and utilization phase

A pre-design conference is held with all parties to address the Construction Management Plan with respect to the Design Phase. At this time management information systems are established in alignment with the Construction Management Plan.

During the entire **Design Phase** a process of continual review and consultation is prompted among team members on all issues. As the design process proceeds from schematic through final design, Ausland will prompt the team to be conscious of the need to consider the issues which are critical to each phase, moving from fundamental and general decisions initially, to decisions on details as design progresses. Periodic constructability reviews will take place by the people that will eventually build the work to facilitate this end. The ultimate goal being to complete a set of documents defining a cost-effective project which can be bid in the current local marketplace within the established Owner's objectives set forth. Throughout this process Ausland is responsible for coordinating with owner:

1. Design document review - for clarity, consistency and coordination.
2. Document distribution - to ensure coordinated and expedited process.
3. Contract agreements - documents appropriate for the task order at hand.
4. General and supplementary general conditions - ensure consistency with other project requirements.
5. Public relations - assist with community relations and bidder interest.
6. Project funding - assist with documentation necessary to secure funding.
7. Meetings - periodic meetings to assess progress, adherence to Construction Management Plan, documenting performance, planning for completion and taking necessary action to resolve problems.
8. Cost control - to monitor and control cost.
9. Time control - to monitor and control time.

During the **Procurement Phase** Ausland will secure qualified, competitive contractors able to perform the work. During this phase Ausland will manage:

1. Solicitation and prequalification of bidders and guidelines by which bidders will be evaluated
2. Notices and advertisements
3. Bidders' interest campaign
4. Delivery of bid documents
5. Information to bidders
6. Issuance of addenda
7. Bid opening and evaluation
8. Monitoring compliance with and execution of construction contracts
9. Arrangement for owner-purchased equipment and materials
10. Provision for permits, insurance and labor affidavits

During the **Construction Phase** Ausland will expedite the efficiency of the construction process through professional planning and execution of project activities focused on fulfilling the Owner's scope, cost, quality, and time requirements. During this phase Ausland will:

1. On-site facilities - ensure adequate facilities for construction activities.
2. Coordination - provide coordination and leadership of the individual consultants and trade contractors.
3. Meetings - pre-construction, progress, and weekly on-site meetings.
4. Time management - establish procedures for planning and monitoring compliance with the project time line.
5. Budget and cost monitoring - maintain process of tracking, projecting, and monitoring cost.

6. Payment requests - implement procedures for processing payments in conformance with contract requirements.
7. Change orders - develop specific, documented procedures for initiating and approving change orders.
8. Claims management - establish methods and procedures to minimize the potential impact of claims through prompt and equitable resolution with minimal disruption to the on-going construction effort.
9. Quality management - monitor compliance with quality level expected.
10. Owner purchased materials and equipment - identify long lead materials and equipment for pre-purchasing - coordinate scheduling, delivery, storage, installation and start-up.
11. Record drawings - constantly update during the work and deliver final posted specifications upon completion.
12. Record keeping - provide for a smooth, efficient and expedient flow of paperwork.
13. Management reporting - establish reporting system to keep team members informed of project status.

During the **Post-Construction Phase** Ausland will provide for an expeditious and effective closeout and activation process. Ausland will prepare and transmit documents connected with final payment, organization of operations and maintenance manuals, assembling record drawings, move-in and start up, and general close-out.

### Specific Functions of Cost Management

During the **Pre-Design Phase** Ausland starts by familiarizing ourselves with the site of the proposed project and thoroughly investigate factors likely to affect construction costs. Additionally, we conduct a local construction market survey to determine the current costs and availability of labor, materials, plant and equipment, current and future bidding climates, and other related factors. Next, our team develops an estimate of the cost of construction based on the design information and criteria available. Design contingencies at this step can be as high as 15-20%. Current and future escalation is also accounted for as appropriate in accord with the master schedule. Finally, a cost analysis is performed to develop any potential conceptual design alternatives.

During the **Design Phase** Ausland employs proactive management of the design process. Real time cost support is provided to the design team to keep the design within the objectives established. Comprehensive estimates are developed at schematic (30%) and design development (60%) stages. Current and future escalation is also accounted for as appropriate in accord with the master schedule.

During design our team will perform **Value Analysis Studies** for the purpose of optimizing value in the project designs. These studies will take into account capital, operating, and maintenance costs to verify that the most cost effective design solution has been achieved.

During the **Procurement Phase** our team will tabulate all bids received and prepare a bid analysis, including the evaluation of all alternate bids and unit prices, compared with its final estimate of construction.

During the **Construction Phase** our staff will develop a schedule of values acceptable to the Owner to ensure accurate and objective evaluation of work completed to avoid payment delay and potential payment disputes. Our team will also employ a process of estimating change orders requested by the

Owner for changes in scope to ensure trade contractor control and communication and verification by Owner.

During the **Post Construction Phase** Ausland will provide total project cost reports, listing all change orders and identifying any unresolved issues which may have cost impact.

### Specific Functions of Time Management

During the **Pre-Design Phase** Ausland will develop a comprehensive **Master critical path Schedule** for sequencing, management and implementation of design, procurement and construction. In addition, a **Milestone Schedule** highlighting key events from the Master Schedule will be generated. Ausland utilizes **Primavera Scheduling** Software. A sample critical path schedule is on the following page.

During the **Design Phase** our team will update the Master schedule on a regular basis and monitor the Milestone Schedule. All updates and revisions will be distributed to the entire team.

During the **Procurement Phase** Ausland will communicate to the potential bidders their responsibilities for construction schedule development, maintenance, cooperation, accountability, and compatibility with the scheduling and reporting requirements of the contract documents.

During the **Construction Phase** our staff will incorporate the approved trade contractor schedules into the Master Schedule. If appropriate, the schedule may be cost loaded and used for establishing entitlement to progress payments. Our staff will also monitor compliance with the schedule and create an accurate record of actual construction progress as compared with the established schedule. If required, recovery schedules will be generated to demonstrate corrective actions.

**In addition to the Master Schedule, our team will generate a 3-week look-ahead schedule (below),** forecasting activities for the upcoming three weeks, and communicate tasks clearly on a daily and weekly basis to all team members. This short-duration schedule is updated weekly, and distributed to the government contracting team during weekly project meetings.

If required during the **Post Construction Phase** we can develop an occupancy plan to ensure a smooth and orderly transition into the completed project and facilitate revenue income or beneficial use as quickly as possible. The occupancy plan can incorporate system start-up, completion of punch lists, city/state/federal reviews and certification, and Owner's staff move-in.

### Specific Functions of Quality Management

During the **Pre-Design Phase** we will work to establish a program of quality management that will endure throughout the project. We start by first clarifying the Owner's quality management objectives. Secondly, we ensure scope of work, and ultimately owner's project criteria to ensure it is comprehensively developed, articulated and understood by the entire team.

During the **Design Phase** our team will manage the design process to achieve a set of contract documents developed in accordance with the project schedule, that support a successful procurement activity, and ultimately the completion of the project in accordance with all of the project quality requirements. The primary steps to achieve this goal include:

1. Design Procedures - we will identify the various steps in design development leading to approvals by the Owner, users, government agencies, affected utility companies, and other agencies having jurisdiction over the project.
2. Quality Management Plan - will be employed that provides for senior level designer review of design criteria, calculations, drawings, and specifications.
3. Document Control - a system of controls will be implemented to ensure uniformity and communication of design.
4. Review of Design Submittals - a process to ensure all participating parties are given the opportunity to review submittals as they are developed, and an opportunity to verify quality objectives are being achieved.
5. Quality Control - methods for the checking of concepts, calculations, and material selection procedures so the level of quality expected or required by the contract is achieved; plans and specifications are to be reviewed for clarity, completeness, and consistency.
6. Quality Assurance - as part of the Quality Management Plan will be followed by the design team, including the systematic reviews which demonstrate that QC activities have, in fact, been undertaken in an acceptable manner.
7. Project Estimates - detailed checks of construction cost estimates.
8. Owner Authorizations - authorization and documentation for any extra work or changes in services.
9. Constructability Reviews - we will develop a constructability review program which, as a minimum, will review the schedule, field conditions and plan check of design. Such reviews will be employed at 30% and 60% completion of contract documents.
10. Value Engineering - opportunities for value engineering will be contemplated at each constructability review.
11. Construction Testing Requirements - design team will detail specific tests expected to be performed on site and in fabrication plants. In addition, any certifications which are required and/or are acceptable in lieu of tests will be noted.
12. Quality Management Specifications - design team will develop specifications in which QA/QC responsibilities are identified, including organization requirements.
13. Project Funding - we will provide verification the necessary funding has been authorized and consider its impact to quality of the project.
14. Project Review Meetings - will be held at least monthly.
15. Reports - to communicate as outlined in the quality management plan.

During the **Procurement Phase** Ausland will secure trade contractors capable of satisfying the quality requirements. The primary steps to achieve this goal include:

1. Procurement Planning - we will include within Master Schedule the necessary procurement cycle for advertisement, bid and award, together with any special approvals during the design stage.
2. Advertisement and Solicitation of Bids - we will comply with proscribed standards and propose modifications consistent with Quality Management Plan for the project. Hold pre-bid meetings, site visits, and addendum preparation.
3. Select Bidders List - we will identify and pre-qualify bidders as appropriate.
4. Instructions to Bidders - we will provide comprehensive and clear information which complements the advertisement or solicitation.
5. Pre-Bid Conference - we will hold meetings to communicate to trade contractors schedule and other project requirements.
6. Proposal Document Protocol and Bid Opening - we will provide a controlled process for fair competition of contractors.

7. Pre-Award Conference - we will conduct meetings with apparent successful bidders to review and discuss the terms, conditions, costs and scope of work.
8. Contract Award - we will provide notice of intent to award to prompt bidders to procure bonding, insurance, and other special requirements required prior to award.

During the **Construction Phase** Ausland will complete the construction in accordance with the requirements of the contract documents, with documentation to verify that such compliance was achieved. The primary steps to achieve this goal include:

1. Pre-Construction Conference - to present the general approach to the construction phase.
2. Construction Planning and Scheduling - a construction schedule is created to control quality regarding time.
3. Inspection and Testing - consistent with the Quality Management Plan and the construction documents, our team will verify conformance on a regular basis.
4. Reports and Record Keeping - we will maintain thorough documentation of inspection efforts, reports, records, correspondence, photos and other information.
5. Changes in the Work - we will document and communicate changes in the work.
6. Document Control and Distribution - we will establish procedures for document control and distribution of approved contract plans and specifications.
7. Non-Conforming and Deficient Work - we will maintain log of work not in conformance and corrective action.
8. Progress Payments - accurately document work completed.
9. Final Reviews, Documentation and Punch List Work - detailed close out documentation procedures.

During the **Post-Construction Phase** our team will review and implement operations and maintenance manuals associated with equipment installed and assist in pre-warranty expiration date checkouts.